

Amendments to the Drawings:

The attached two sheets of drawings include changes to Figs. 1, 2, 3 and 4. These two sheets, which include Figs. 1-4, replace the original sheets including Figs. 1-4. In Fig. 1, shading for the layer directly above layer 4 has been amended. In Fig. 2, removed portions of the sacrificial layer 5 have been indicated. In Fig. 3, the arrow extending from reference numeral 22 has been amended. In Fig. 4, the arrow extending from reference numeral 25 has been amended.

Attachments: 2 replacement sheets

REMARKS

Claims 1-20 are pending in this application after addition of claim 20. Claims 10-19 have been withdrawn from further consideration. Claim 1 has been amended. Reconsideration of the present application in view of the foregoing amendments and following remarks is respectfully requested.

The Examiner objected to the drawings for various informalities. In response, Fig. 2 has been amended to show removed areas of the sacrificial layer; in Fig. 3, the arrow extending from reference number 22 has been redrawn to be consistent with the Specification disclosure; and in Fig. 4, the arrow extending from reference number 25 has been redrawn to be consistent with Specification disclosure. In addition, Fig. 1 has been amended to clarify the relative positions of layers 3, 4 and 5. Two replacement drawing sheets containing amended Figs. 1-4 are attached.

The Examiner rejected claims 1-9 under 35 U.S.C. § 112, second paragraph, as being indefinite. For the reasons stated below, Applicants submit that claims 1-9 are in compliance with 35 U.S.C. § 112, second paragraph.

Regarding claim 1, the Examiner noted that “substantially” is unclear, and “attacked by the removing of the at least one first sacrificial layer” is unclear. Initially, Applicants note that claim 1 has been amended to recite that “first insulation layer includes a material that is substantially not attacked in the removing of the at least one first sacrificial layer.” In this regard, “a material that is **substantially not attacked**” does not create any indefiniteness, since one of ordinary skill in the art would readily understand this phrase to mean that any attack that occurs on the material is negligible. (See M.P.E.P. 2173.05(b)D, noting that “substantially” is definite). Furthermore, Applicants note that “substantially not attacked in the removing of the at least one first sacrificial layer,” as recited in amended claim 1 is clear: the material included in the first insulation layer is substantially resistant to the process in which the sacrificial layer is removed.

Regarding claim 2, the Examiner indicated that the phrase “an electroconductive layer that is structured and that is situated between the at least one electrically non-conductive first insulation layer and the at least one first sacrificial layer” is unclear. In response, Applicants note that the phrase “situated between” encompasses an arrangement in which the conductive layer is in contact with, and **positioned between**, the

insulation layer and the sacrificial layer, regardless of whether the relative positions are arranged vertically or horizontally. Applicants note that Figs. 1 and 2 have been amended to clearly show that the conductive layer 4 is vertically stacked between the insulation layer 3 and the sacrificial layer 5. Applicants note that the shading of the layer directly above conductive layer 4 had been inadvertently changed from the drawings filed in the priority German application. When viewed in light of Amended Figs. 1 and 2, the phrase “an electroconductive layer that is structured and that is situated between the at least one electrically non-conductive first insulation layer and the at least one first sacrificial layer” is clear.

Regarding claim 8, the Examiner noted that “the silicon dioxide” in line 3 lacks antecedent basis. In response, claim 8 has been amended to recite “the silicon oxide,” as suggested by the Examiner.

In view of the above, Applicants submit that claims 1-9 are in compliance with 35 U.S.C. § 112, second paragraph.

Claims 1, 2 and 5 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Reichenbach et al., WO 01/46066 (“Reichenbach”; the Examiner uses US 2004/0065932 as the English-language equivalent). Applicants respectfully submit that this rejection should be withdrawn for at least the following reasons.

To anticipate a claim under § 102(b), a single prior art reference must identically disclose each and every claim element. See Lindeman Maschinenfabrik v. American Hoist and Derrick, 730 F.2d 1452, 1458 (Fed. Cir. 1984). If any claimed element is absent from a prior art reference, it cannot anticipate the claim. See Rowe v. Dror, 112 F.3d 473, 478 (Fed. Cir. 1997). Additionally, not only must each of the claim limitations be identically disclosed, an anticipatory reference must also enable a person having ordinary skill in the art to practice the claimed invention, namely the inventions of the rejected claims, as discussed above. See Akzo, N.V. v. U.S.I.T.C., 1 U.S.P.Q.2d 1241, 1245 (Fed. Cir. 1986). To the extent that the Examiner may be relying on the doctrine of inherent disclosure for the anticipation rejection, the Examiner must provide a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the applied art.” (See M.P.E.P. § 2112; emphasis in original; see also Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)).

Claim 1 recites, in relevant parts, “a surface micromechanical structure produced in the functional layer and including movable elements and immovable elements”; “at least one electrically non-conductive first insulation layer”; “at least one first sacrificial layer”; and “a substrate to which is connected the functional layer via the at least one electrically non-conductive first insulation layer and the at least one first sacrificial layer, wherein: the movable elements are exposed by removing the at least one first sacrificial layer.”

In support of the rejection of claim 1, the Examiner cites Figures 5, 7, 10 and 11 of Reichenbach. In these Figures, Reichenbach describes a method for manufacturing a micromechanical structure in various manufacturing steps. Applicants will address these Figures in detail below.

Fig. 5 of Reichenbach shows a micromechanical component having a functional layer 16, a surface-micromechanical structure, moving elements 26, non-moving elements 16, at least one electrically non-conductive, first insulating layer 12, and a substrate 10. In Fig. 5, at least one first sacrificial layer 30 is not yet shown, and **substrate 10 is not connected to functional layer 16 via at least one electrically non-conductive, first insulating layer 12 and at least one first sacrificial layer 30.** Furthermore, moving elements 26 are exposed, **but not by removing the at least one sacrificial layer 30,** since the at least one sacrificial layer 30 does not exist in any of Figs. 1-5.

Fig. 7 of Reichenbach shows a micromechanical component having a functional layer 16, a surface-micromechanical structure, non-moving elements 16, at least one electrically non-conductive, first insulating layer 12, at least one first sacrificial layer 30, and a substrate 10. Fig. 7 does **not show any moving elements 26, let alone show that moving elements 26 are exposed by removing the at least one first sacrificial layer 30.**

Fig. 10 of Reichenbach shows a micromechanical component having a functional layer 16, a surface-micromechanical structure, moving elements 26, non-moving elements 16, at least one electrically non-conductive, first insulating layer 12, and a substrate 10. Fig. 10 does not show at least one first sacrificial layer 30, and **substrate 10 is not connected to functional layer 16 via at least one electrically non-conductive, first insulation layer 12 and at least one first sacrificial layer 30.** Fig. 11 is substantially

similar to Fig. 10, with the exception that Fig. 11 shows a sealing layer 34 on top of the overall arrangement.

For at least the foregoing reasons, the cites Figures of Reichenbach clearly do not disclose all of the features of claim 1, i.e., “a surface micromechanical structure produced in the functional layer and including movable elements and immovable elements”; “at least one electrically non-conductive first insulation layer”; “at least one first sacrificial layer”; and “a substrate to which is connected the functional layer via the at least one electrically non-conductive first insulation layer and the at least one first sacrificial layer, wherein: the movable elements are exposed by removing the at least one first sacrificial layer.” Therefore, claim 1 and its dependent claims 2 and 5 are not anticipated by Reichenbach.

Independent of the above, Applicants note that the features of claim 2 are not taught by Reichenbach. In this regard, the Examiner initially identified element 12 of Reichenbach “an electrically non-conductive, first insulating layer 12” as applied against claim 1. Furthermore, at the top of page 7 of the Office Action, the Examiner contends that electrically conductive layer 14 is situated in a layer, which is formed by the first insulating layer and the first sacrificial layer, and this configuration satisfies the claimed feature that “an electroconductive layer that is structured and that is situated between the at least one electrically non-conductive first insulation layer and the at least one first sacrificial layer,” as recited in claim 2. Applicants respectfully note that this interpretation is incorrect. As discussed in connection with amended Figs. 1 and 2 which show that the conductive layer 4 is vertically stacked between the insulation layer 3 and the sacrificial layer 5, Applicants note that the phrase “situated between” encompasses an arrangement in which the conductive layer is in contact with, and positioned between, the insulation layer and the sacrificial layer,. According to the cited Fig. 3 of Reichenbach (as well as all of the other Figures of Reichenbach that show similar embodiments), an insulating layer 12 encloses an electrically conductive layer 14 (this is described in paragraph [0039] of Reichenbach). However, as shown in Fig. 6, the electrically conductive layer 14 is clearly not positioned between the insulating layer 12 and the sacrificial layer 30. In addition, as further shown in Figure 6, the sacrificial layer does not come close to making any contact with electrically conductive layer 14. Therefore, Reichenbach clearly does not anticipate claim 2.

Claims 3-4 and 6-7 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Reichenbach in view of Laermer, WO 02/38492 (“Laermer”; the Examiner

uses US 2004/0112937 as the English-language equivalent). Applicants respectfully submit that this rejection should be withdrawn for at least the following reasons.

In order for a claim to be rejected for obviousness under 35 U.S.C. § 103(a), not only must the prior art teach or suggest each element of the claim, the prior art must also suggest combining the elements in the manner contemplated by the claim. See Northern Telecom, Inc. v. Datapoint Corp., 908 F. 2d 931, 934 (Fed. Cir. 1990); In re Bond, 910 F. 2d 831, 834 (Fed. Cir. 1990). The Examiner bears the initial burden of establishing a prima facie case of obviousness. The Examiner must show, inter alia, that there is some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify or combine the references, and that, when so modified or combined, the prior art teaches or suggests all of the claim limitations. See M.P.E.P. §2143. To the extent that the Examiner may be relying on the doctrine of inherent disclosure for the anticipation rejection, the Examiner must provide a “basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flow from the teachings of the applied art.” (See M.P.E.P. § 2112; emphasis in original; see also Ex parte Levy, 17 U.S.P.Q.2d 1461, 1464 (Bd. Pat. App. & Inter. 1990)).

Since claims 3, 4, 6 and 7 depend on claim 1, and since Laermer fails to cure the deficiencies of Reichenbach as applied against parent claim 1, the combination of Reichenbach and Laermer fails to render obvious dependent claims 3, 4, 6 and 7.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Reichenbach and Laermer as applied to claim 3, and further in view of U.S. Patent No. 5,490,034 (“Zavracky”). Since claim 8 ultimately depends on claim 1, and since Zavracky fails to cure the deficiencies of Reichenbach and Laermer as applied against parent claim 1, the combination of Reichenbach, Laermer and Zavracky fails to render obvious dependent claim 8.

Claim 9 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Reichenbach and Laermer as applied to claim 3, and further in view of Zavracky and U.S. Patent No. 6,753,559 (“Chatterjee”). Since claim 9 ultimately depends on claim 1, and since Zavracky and Chatterjee fail to cure the deficiencies of Reichenbach and Laermer as applied

against parent claim 1, the combination of Reichenbach, Laermer, Zavracky and Chatterjee fails to render obvious dependent claim 9.


New independent claim 20 is substantially similar to claim 1, but claim 20 includes the further limitation that "material of the at least one first sacrificial layer has different physical properties in comparison to material of the at least one electrically non-conductive first insulation layer." Claim 20 is allowable over the cited prior art for at least the reasons stated in connection with claim 1, as well as for the inclusion of the additional feature.

CONCLUSION

In light of the foregoing, Applicants respectfully submit that pending claims 1-9 and 20 are in condition for allowance. Prompt reconsideration and allowance of the present application are therefore earnestly solicited.

Respectfully submitted,

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